Metric Measurement
5 Day Unit

Math-Grade 6

Fred Piede
**Objectives:**

- To expose the students to the metric system of measurement
- Convert units within the metric system
- Practice measuring objects with measuring tools

**Standards:**

NCTM Standards:

- Number and Numerations
- Measurement
- Data Analysis

New York State Standards:

**Standard 1:** Students will use mathematical analysis, scientific inquiry, and engineering design as appropriate, to pose questions, seek answers, and develop solutions.

**Standard 3:** Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.

**Standard 4:** Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

**Resources:**


[www.convert-me.com](http://www.convert-me.com)
Overview:

This is a five day unit on the metric system and measurement. The unit is designed to introduce and practice skills of measuring and converting.

Day 1

-Introduce the basic units of measure for metric length, capacity, and weight.
-Introduce metric prefixes with their values in relation to each other.
-Students will observe examples of each unit to relate to real life situations.
-Use flash cards to play the “I have …, Who has …” game with the values of each prefix.

Day 2

-Review prefixes with values.
-Students will learn to convert within each unit.
-Students will learn the shortcut by the using table and moving the decimal point.
-Students will use dry erase boards for conversions during class.
-Homework from text book.

Day 3

-Students will review what each unit looks like.
-Students will work in pairs on a worksheet to decide which unit is most appropriate to use for different objects.
-Finish worksheet for homework.

Day 4

-Students will measure in pairs the lengths of different objects in the classroom using meter sticks.
-Students will decide which unit is most appropriate to use.
-Students will convert all of their answers to millimeters for homework.

Day 5

-Students will review the metric system by completing the metric review form text.
-Students will go on the computer to www.convert-me.com to check their conversions by plugging in problems to the computer converter.
**Day 1**

Objectives:

- Students will be introduced to the metric system, its prefixes, and the values of the prefixes.
- Students will learn what real life objects correspond to each unit.

Materials:

- meter stick, text book, medicine dropper, paper clip, gram weight set, liter bottle of soda, and any other examples of metric units you can think of to show

Procedure:

1.) Introduce the basic unit of measure for metric length, capacity, and weight.
2.) Introduce the prefixes along with their values.
3.) Explain how these prefixes work with the meter, liter, and the gram.
4.) Students will be shown that a paper clip is about one gram, their text book is about one kilogram, paper clip is about one centimeter long, the break down of a meter stick, height of the door knob is about one meter, a liter bottle of soda, the milliliter marking on a medicine dropper.
5.) Students will copy chart from the overhead which has these prefixes with their values.
6.) Students will learn the saying “King Henry Drinks Milk/Lemonade/Gatorade During Council Meetings”.
7.) Students will play the I have … Who has … game on the prefixes and their values. Students may leave out their notes if they would like.
Day 2

Objective:

-Students will learn to convert within each unit

Materials:

-dry erase markers, dry erase boards

Procedure:

1.) Students will review the chart with units and prefixes from their notes.
2.) Students will see examples of conversions made using chart and moving the decimal point.
3.) Students will be given problems from the overhead to do on their dry erase boards and hold up.
4.) Students will begin homework from textbook pages 77-78 Exercises #1-35 odd.
**Day 3**

**Objective:**

- Students will decide which unit is most appropriate to use in measuring certain items.

**Materials:**

- Worksheet

**Procedure:**

1.) Review how to convert units.
2.) Check and go over homework from yesterday.
3.) Ask students which unit they would use if they wanted to measure the length of the table in the front of the room.
4.) Have a student volunteer measure it.
5.) Go through a couple more examples similar to this one.
6.) Students will work on worksheet for class work.
7.) Students homework is text pages 78-79 #36-45
Find the metric unit that completes each of the following. Use km, m, cm or mm.

1. A ski is 2 ____ long.
2. A quilt is 1.5 ____ wide.
3. A race is 0.8 ____ long.
4. A paper clip is 0.9 ____ long.
5. A sheet of paper is 21.5 ____ wide.
6. A nickel is 2 ____ thick.
7. A compact disc is 15 ____ wide.
8. A window is 1.34 ____ wide.
9. You might drive 14 ____ to work.
10. A picnic table is 2 ____ long.
11. A bike is about 1.5 ____ tall.
12. A key is about 8 ____ wide.
13. A fork is about 18 ____ long.
14. A refrigerator is about 2.3 ____ tall.
Day 4

Objectives:

- Students will measure the length of objects in the classroom using meter sticks.
- Students will decide which unit of measure is most appropriate.

Materials:

- worksheet, class set of meter sticks

Procedure:

1.) Review homework from yesterday.
2.) Review the length of a meter, centimeter, and millimeter.
3.) Students will be paired up with a meter stick each to measure different objects in the room from the worksheet.
4.) Students will decide which unit should be used.
5.) Students will convert all of their measurements into millimeters for homework.
Measure the following items with the unit that you think would fit the best.

1. text book ______________
2. width of pencil ______________
3. height of cabinet ______________
4. length of your foot ______________
5. height of door ______________
6. diagonal of desk ______________
7. width of room ______________
8. calculator ______________
9. your height ______________
10. distance from our room to Ms. Kulig’s room ______________
**Day 5**

**Objective:**

- Students will review converting and check their answers on the internet using a converting program.

**Materials:**

- computer with internet access

**Procedure:**

1.) Review answers from yesterdays measurement activity.
2.) Students may work together on review from text of metric measurement to review for unit test. (Text pages 77-78 Exercises #2-34 even)
3.) When students are completed, they must get online and go to the website [www.convert-me.com](http://www.convert-me.com) to check their conversions on the computer converter.
4.) Students homework is to review for unit test.